AMENDMENTS TO THE CLAIMS

Please cancel Claims 1 to 25.

Please add new claims 26 to 56.

Claims 1 to 25 (Cancelled)

26. (New) An isolated nucleic acid molecule comprising a polynucleotide sequence selected from the group consisting of:

(a) an isolated polynucleotide encoding a polypeptide comprising amino acids 1 to 665 of SEQ ID NO:109;

(b) an isolated polynucleotide encoding a polypeptide comprising amino acids 2 to 665 of SEQ ID NO:109;

(c) an isolated polynucleotide encoding a polypeptide comprising amino acids 1 to 302 of SEQ ID NO:109;

(d) an isolated polynucleotide encoding a polypeptide comprising amino acids 2 to 302 of SEQ ID NO:109;

(e) an isolated polynucleotide encoding a polypeptide comprising at least 473 contiguous amino acids of SEQ ID NO:109, wherein said polypeptide has phosphatase activity; and

(f) an isolated polynucleotide which represents the complementary sequence of (a), (b), (c), (d), or (e).

27. (New) The isolated nucleic acid molecule of claim 26, wherein said polynucleotide is (a).

28. (New) The isolated nucleic acid molecule of claim 27, wherein said polynucleotide comprises of nucleotides 538 to 2532 of SEQ ID NO:108.

29. (New) The isolated nucleic acid molecule of claim 26, wherein said polynucleotide is (b).

30. (New) The isolated nucleic acid molecule of claim 29, wherein said polynucleotide comprises nucleotides 541 to 2532 of SEQ ID NO:108.

31. (New) The isolated nucleic acid molecule of claim 26, wherein said polynucleotide is (c).

32. (New) The isolated nucleic acid molecule of claim 26, wherein said polynucleotide comprises of nucleotides 538 to 1443 of SEQ ID NO:108.

33. (New) The isolated nucleic acid molecule of claim 26, wherein said polynucleotide is (d).

34. (New) The isolated nucleic acid molecule of claim 33, wherein said polynucleotide comprises nucleotides 541 to 1443 of SEQ ID NO:108.

35. (New) The isolated nucleic acid molecule of claim 26, wherein said polynucleotide is (e).

36. (New) The isolated nucleic acid molecule of claim 35, wherein said polynucleotide comprises at least 1419 contiguous nucleotides of SEQ ID NO:108.

37. (New) The isolated nucleic acid molecule of claim 26, wherein said polynucleotide is (f).

38. (New) A recombinant vector comprising the isolated nucleic acid molecule of claim 26.

39. (New) A recombinant host cell comprising the vector sequences of claim 38.

40. (New) A method of making an isolated polypeptide comprising:

(a) culturing the recombinant host cell of claim 39 under conditions such that said polypeptide is expressed; and

(b) recovering said polypeptide.

41. (New) The isolated polynucleotide of claim 26 wherein said nucleic acid sequence further comprises a heterologous nucleic acid sequence.

42. (New) The isolated polynucleotide of claim 41 wherein said heterologous nucleic acid sequence encodes a heterologous polypeptide.

43. (New) The isolated polynucleotide of claim 42 wherein said heterologous polypeptide is the Fc domain of immunoglobulin.

44. (New) An isolated nucleic acid molecule comprising a polynucleotide selected from the group consisting of:

(a) a polynucleotide comprising the cDNA clone contained in plasmid RET31 in ATCC Deposit No. PTA-3434; and

(b) a polynucleotide comprising the cDNA clone contained in plasmid BMY_HPP5 in ATCC Deposit No. PTA-2966.

45. (New) The isolated polynucleotide of claim 44 wherein said nucleic acid sequence further comprises a heterologous nucleic acid sequence.

46. (New) The isolated polynucleotide of claim 45 wherein said heterologous nucleic acid sequence encodes a heterologous polypeptide.

47. (New) The isolated polynucleotide of claim 46 wherein said heterologous polypeptide is the Fc domain of immunoglobulin.

48. (New) An isolated polynucleotide comprising a polynucleotide encoding amino acids 2 to 665 of SEQ ID NO:109 comprising at least one amino acid substitution, wherein said amino acid substitution is located at one or more of the following amino acid residues: at amino acid residue 180; at amino acid residue 193; at amino acid residue 284; at amino acid residue 293; at amino acid residue 302; at amino acid residue 315; and at amino acid residue 584; wherein said polypeptide has phosphatase activity.

49. (New) The isolated polynucleotide of Claim 48 wherein the substitute amino acid at amino acid residue 180 is methionine.

50. (New) The isolated polynucleotide of Claim 48 wherein the substitute amino acid at amino acid residue 193 is asparagine.

51. (New) The isolated polynucleotide of Claim 48 wherein the substitute amino acid at amino acid residue 284 is serine.

52. (New) The isolated polynucleotide of Claim 48 wherein the substitute amino acid at amino acid residue 293 is alanine.

53. (New) The isolated polynucleotide of Claim 48 wherein the substitute amino acid at amino acid residue 302 is alanine.

54. The isolated polynucleotide of Claim 48 wherein the substitute amino acid at amino acid residue 315 is proline.

55. (New) The isolated polynucleotide of Claim 48 wherein the substitute amino acid at amino acid residue 584 is arginine.

56. (New) An isolated polynucleotide encoding a substrate trapping mutant of the RET31 polypeptide comprising amino acids 2 to 665 of SEQ ID NO:109 comprising at least one amino acid substitution within the region spanning amino acid residues 158 to 297 of SEQ ID NO:109, wherein said substrate trapping mutant polypeptide retains the ability to bind a RET31 substrate, wherein the ability of the RET31 substrate trapping mutant polypeptide to dephosphorylate said RET31 substrate

is reduced relative to the native RET31 polypeptide, and wherein the at least one amino acid substitution comprises a conservative amino acid residue.